



CROSS-REFERENCES TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application Serial No. 60/111,640, filed December 9, 1998, the disclosure of which is incorporated herein by reference.

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In the Claims:

Please amend claims 1, 2, 8, and 21-23, as follows:

1. (Amended) A method of creating a molecular profile of a chemical composition suspected of toxicity, comprising the steps of:
 - a) contacting an isolated unmodified mammalian embryoid body with the chemical composition suspected of toxicity; and
 - b) detecting and recording alterations in expression of sets of genes or proteins in the mammalian embryoid body in response to the chemical composition compared to expression of sets of genes or proteins in an embryoid body not contacted with the chemical composition, to create a pattern of alterations in gene expression or protein expression in the mammalian embryoid body in response to the chemical composition.
2. (Amended) A method of compiling a library of molecular profiles of chemical compositions having predetermined toxicities, comprising the steps of:
 - a) contacting an isolated mammalian embryoid body with a chemical composition having predetermined toxicities;
 - b) detecting and recording alterations in expression of sets of genes or proteins in the mammalian embryoid body in response to the chemical composition compared to expression of sets of genes or proteins in an embryoid body not contacted with the chemical composition, to create a pattern of alterations in gene expression or protein expression in the mammalian embryoid body in response to the chemical composition; and
 - c) compiling a library of molecular profiles by repeating steps a) and b) with at least two chemical compositions having predetermined toxicities.

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8. The method of claim 7, wherein the alterations in protein expression are detected by an immunodetection assay.

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21. (Amended) A method of typing toxicity of a test chemical composition, comprising the steps of:

a) creating a molecular profile of the test chemical composition, comprising the steps of:

i) contacting an isolated mammalian embryoid body with the chemical composition; and

ii) detecting and recording alterations in expression of sets of genes or proteins in the mammalian embryoid body in response to the chemical composition compared to expression of sets of genes or proteins in an embryoid body not contacted with the chemical composition, to create a pattern of alterations in gene expression or protein expression; and

b) comparing the molecular profile in step a) with the molecular profile of a chemical composition having predetermined toxicities;

wherein the type of toxicity of the test chemical composition is determined by the comparison in step b).

22. (Amended) A systematic method of typing toxicity of a test chemical composition, comprising the steps of:

a) creating a molecular profile of the test chemical composition, comprising the steps of:

i) contacting an isolated mammalian embryoid body with the chemical composition; and

ii) detecting and recording alterations in expression of sets of genes or proteins in the mammalian embryoid body in response to the chemical composition compared to expression of sets of genes or proteins in an embryoid body not contacted with the chemical composition, to create a pattern of alterations in gene expression or protein expression; and

b) comparing the molecular profile in step a) with a composite library of molecular profiles of chemical compositions having predetermined toxicities, wherein the

composite library comprises the molecular profiles of at least two chemical compositions, wherein said molecular profiles are created according to claim 2;

wherein the type of toxicity of the test chemical composition is determined by the comparison in step b).

23. (Amended) A method of ranking toxicity of a test chemical composition, the method comprising:

a) creating a molecular profile of the test chemical composition, comprising the steps of:

i) contacting an isolated mammalian embryoid body with the chemical composition; and

ii) detecting and recording alterations in expression of sets of genes or proteins in the mammalian embryoid body in response to the chemical composition compared to expression of sets of genes or proteins in an embryoid body not contacted with the chemical composition, to create a pattern of alterations in gene expression or protein expression; and

b) comparing the molecular profile in step a) with a composite library of molecular profiles of chemical compositions having predetermined toxicities, wherein the composite library comprises the molecular profiles of at least two chemical compositions, wherein said molecular profiles are created according to claim 2;

wherein the toxicity of the test chemical composition is ranked by the comparison in step b).

REMARKS

Claims 1-41 are pending in the application. Claims 19, 20, and 34-41 were previously withdrawn from consideration as being drawn to non-elected invention. Claims 5 and 6 were withdrawn from consideration as being drawn to non-elected species claims. By virtue of this claims 1, 2, 8, and 21-23 have been amended. Accordingly, claims 1-18 and 21-33 are currently under consideration.